

**CORRELATION
of
the Understanding Numeration PLUS & Understanding Math PLUS programs
with
MICHIGAN CONTENT STANDARDS
KINDERGARTEN
APRIL 2007**

Note: a. The Understanding Math PLUS series of programs consist of 10 programs written for Kindergarten to 10th Grade.

The 10 programs are:

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| Understanding Fractions | Understanding Whole Numbers and Integers |
| Understanding Probability | Understanding Percent |
| Understanding Exponents | Understanding Equations |
| Understanding Algebra | Understanding Graphing |
| Understanding Numeration | |
| Understanding Measurement and Geometry | |

Note: b. The Understanding Numeration software for K to 3 is set up so that the teacher selects items in the following order:

Concept .. from 5 concepts .. Counting, Comparing & Ordering, Place Value, Operations and Problem Solving.

Skill .. chosen from the list of specific learning expectations

Level .. indicates the levels of development for Kindergarten to 3rd grade.

Level	Upper Range of Number
A	10
B	20
C	100
D	1000

Lesson .. 250 lessons are sequenced to build understanding of concepts.

A detailed Lesson Synopsis on the website www.neufeldmath.com to assist the teacher by stating the lesson contents but also by giving lesson suggestions.

Worksheet .. off computer worksheets are selected from the CD by a code.

Note: c. The remaining 9 Understanding Math programs for 4th to 10th grade are set up so that they can be used in a variety of teaching and learning environments ranging from a teacher centered approach with 1 computer to a student centered lab approach. The lessons can also be used in remediation, tutorial, intervention, resource, fast-tracking.

Each topic has:

- ..an interactive concept introduction, usually with a variety of graphic approaches.
- ..a number of particular examples
- ..practice questions with random questions but particular feedback
- ..a topic test with random questions and tracking
- ..off computer worksheets selected from the website .. www.neufeldmath.com

Neufeld Learning Systems Inc. April 2007

Source: http://www.michigan.gov/documents/MathGLCE_140486_7.pdf

*revised expectations in italics

Numbers and Operations
Count, write, and order numbers

MICHIGAN CONTENT STANDARDS	UNDERSTANDING NUMERATION PLUS LESSONS
<p>N.ME.00.01 Count objects in sets up to 30.*</p> <p>N.ME.00.04 Read and write numbers to 30 and connect them to the quantities they represent.*</p>	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>COUNTING</u> Skill – Reading and Printing Numerals Level A Introduction : Counting 1 to 10: worksheet #1, #2 Things in a Square #1 Join up to 10 Dots Building a Number Line Building a Vertical Number Line</p> <p>Level B Introduction: Counting 1-20 Things in a Square #2:Worksheets #1, #2 Join up to 20 Dots</p> <p><u>COUNTING</u> Skill – Associating Numbers in a Real World Context Level A The Street Scene: Worksheets #1, #2 The Zoo</p>
<p>N.ME.00.02 Use one-to-one correspondence to compare and order sets of objects to 30 using phrases such as “same number”, “more than”, or “less than”; use counting and matching.</p>	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>COUNTING</u> Skill – 1 to 1 Correspondence of # to Objects Level A Keep Track by Marking: Worksheets #1, #2</p>
<p>N.ME.00.03 Compare and order numbers to 30 using phrases such as “more than” or “less than.”</p>	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>COMPARING AND ORDERING</u> Skill – Understand “More” and “Less” Level A More, More!! Worksheets #1, #2</p>

	<p>Less, Less!! Worksheets #1, #2 More or Less...Dots Worksheets #1, #2 More or Less on a Number Line: Worksheets #1, #2</p>
<p>N.ME.00.05 Count orally to 100 by ones. Count to 30 by 2's, 5's and 10's using grouped objects as needed.</p>	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>COUNTING</u> Skill – Reading and Printing Numerals Level C Counting 0 to 100 on a Grid</p> <p>Skill – Skip Counting and Patterns Level C Patterns in Rows: worksheet #1, #2 Skip Counting to 100 Skip Count by 2s to 100 : worksheet #1, #2 Next by 5s Next by 2s : worksheet #1, #2</p>

Compose and decompose numbers

MICHIGAN CONTENT STANDARDS	UNDERSTANDING NUMERATION PLUS LESSONS
<p>N.ME.00.06 Understand the numbers 1 to 30 as having one, or two, or three groups of ten and some ones. Also count by tens with objects in ten-groups to 100.</p>	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>PLACE VALUE</u> Skill – Break Numbers into Groups Level B Making Groups: worksheet #1, #2</p>
<p>N.MR.00.07 <i>Compose and decompose numbers from 2 to 10, e.g., $5 = 4 + 1 = 2 + 3$, with attention to the additive structure of number systems, e.g., 6 is one more than 5, 7 is one more than 6.*</i></p>	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>OPERATIONS</u> Skill – Introduce Addition...concretely... “in all” & “together” Level A Addition Using Gumballs #1: Worksheets #1, #2 Addition Using Beans #1: Worksheets #1, #2 Add Number of Sides of Shapes #1: Worksheets #1, #2</p> <p>Skill – Introduce Addition Concretely... “and”</p>

Level A

Addition Using Gumballs #2: Worksheets #1, #2
Addition Using Beans #2: Worksheets #1, #2
Add Number of Sides of Shapes #2: Worksheets #1, #2

Skill – Introduce the Symbolism...# + # =**Level A**

Addition Using Gumballs #3: Worksheets #1, #2
Addition Using Beans #3: Worksheets #1, #2
Add Number of Sides of Shapes #3: Worksheets #1, #2

Skill – Introduce the words... “plus” and “equals”**Level A**

Addition Using Gumballs #4: Worksheets #1, #2
Addition Using Beans #4: Worksheets #1, #2
Add Number of Sides of Shapes #4: Worksheets #1, #2

Skill – Demonstrate Addition Facts ... Making 5**Level A**

Ways to Make 5: Worksheets #1, #2
Ways to Make 5 : Reverse Order worksheets #1, #2
Make 5: Horizontal & Vertical worksheets #1, #2

Skill – Demonstrate Addition Facts ... Making 6**Level A**

Ways to Make 6: Worksheets #1, #2
Ways to Make 6 : Reverse Order worksheets #1, #2
Make 6: Horizontal & Vertical worksheets #1, #2

Skill – Demonstrate Addition Facts ... Making 7**Level A**

Ways to Make 7: Worksheets #1, #2
Ways to Make 7 : Reverse Order worksheets #1, #2
Make 7: Horizontal & Vertical worksheets #1, #2

Skill – Demonstrate Addition Facts ... Making 8

	<p>Level A Ways to Make 8: Worksheets #1, #2 Ways to Make 8 : Reverse Order worksheets #1, #2</p> <p>Skill – Demonstrate Addition Facts ... Making 9</p> <p>Level A Ways to Make 9: Worksheets #1, #2 Ways to Make 9 : Reverse Order worksheets #1, #2</p> <p>Skill – Demonstrate Addition Facts ... Making 10</p> <p>Level A Ways to Make 10: Worksheets #1, #2 Ways to Make 10 : Reverse Order worksheets #1, #2</p>
<p>N.MR.00.08 Describe and make drawings to represent situations/stories involving putting together and taking apart for totals up to 10; use finger and object counting.</p>	<p><u>UNDERSTANDING NUMERATION PLUS OPERATIONS</u></p> <p>Skill – Demonstrate Addition Facts...Patterns</p> <p>Level A Bar Machine : Worksheets #1 Decomposition Tree #1 Adding Along the Number Line</p>

Add and subtract numbers

MICHIGAN CONTENT STANDARDS	UNDERSTANDING NUMERATION PLUS LESSONS
<p>N.MR.00.09 Record mathematical thinking by writing simple addition and subtraction sentences, e.g., $7 + 2 = 9$, $10 - 8 = 2$.</p>	<p><u>UNDERSTANDING NUMERATION PLUS OPERATIONS</u></p> <p>Skill – Demonstrate Addition Facts: Patterns</p> <p>Level A Bar Machine worksheet #1, #2 Decomposition Tree worksheet #1, #2</p> <p>Skill – Introduce Subtraction Concretely... “take away”</p> <p>Level A Introduction to Subtractions #1: Worksheets #1, #2 Introduction to Subtractions #2: Worksheets #1, #2 Introduction to Subtractions #3: Worksheets #1, #2 Introduction to Subtractions #4: Worksheets #1, #2</p>

	<p>Skill – Introduce Subtraction Symbolism Level A Introduce Vertical Subtraction : Worksheets #1, #2 Subtraction Sentences</p> <p>Skill – Fact Families...Add & Subtract Level A Doubles – Add and Subtract Relate Addition and Subtraction : Worksheets #1, #2 Fact Families</p>
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Explore number patterns

MICHIGAN CONTENT STANDARDS	UNDERSTANDING NUMERATION PLUS LESSONS
N.MR.00.10 Create, describe, and extend simple number patterns.	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>COMPARING AND ORDERING</u> Skill – Locate Numbers on a Number Line Level A Find One Missing Number Find Two Missing Numbers</p>

Measurement

Explore concepts of time

MICHIGAN CONTENT STANDARDS	UNDERSTANDING NUMERATION PLUS LESSONS
M.UN.00.01 Know and use the common words for the parts of the day (morning, afternoon, evening, night) and relative time (yesterday, today, tomorrow, last week, next year).	
M.TE.00.02 Identify tools that measure time (clocks measure hours and minutes; calendars measure days, weeks, and months).	<p><u>UNDERSTANDING NUMERATION PLUS</u> <u>COMPARING AND ORDERING</u> Skill – Understand Measurement of Time Level B The Clock: An Introduction #1, #2 Times to the Hour: worksheet #1, #2</p>
M.UN.00.03 Identify daily landmark times to the nearest hour (lunchtime is 12 o'clock; bedtime is 8 o'clock).	

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Explore other measurement attributes

M.UN.00.04 Compare two or more objects by length, weight and capacity, e.g., which is shorter, longer, taller?	
M.PS.00.05 Compare length and weight of objects by comparing to reference objects, and use terms such as shorter, longer, taller, lighter, heavier.	

Geometry

Create, explore, and describe shapes

MICHIGAN CONTENT STANDARDS	UNDERSTANDING NUMERATION PLUS LESSONS
G.GS.00.01 Relate familiar three-dimensional objects inside and outside the classroom to their geometric name, e.g., ball/sphere, box/cube, soup can/cylinder, ice cream cone/cone, refrigerator/prism.	<u>UNDERSTANDING NUMERATION PLUS COUNTING</u> Skill – Recognize and Count Solids Level B/C Counting Solids #1 Counting Solids #2
G.GS.00.02 Identify, sort, and classify objects by attribute and identify objects that do not belong in a particular group.	<u>UNDERSTANDING NUMERATION PLUS COUNTING</u> Skill – Recognize and Count Two-Dimensional Figures Level B/C Counting 2-D Figures #1, #2

Explore geometric patterns

MICHIGAN CONTENT STANDARDS	UNDERSTANDING NUMERATION PLUS LESSONS
G.GS.00.03 Create, describe, and extend simple geometric patterns.	